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ABSTRACT

The objective of this study is to show results obtained by computing teacher salaries three different ways and to show the implications of these for practice. Conventional ways of calculating teacher salaries show declines in salaries once inflation has been considered. Following people who remain in the profession, however, shows that salaries are gaining against inflation. The possible consequences of diverting resources away from new talent toward experienced people are discussed. (Authors)

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CHANGES IN TEACHER SALARIES OVER EIGHT YEARS: SIGNS OF A PROBLEM

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With teachers on strike in a number of communities, widespread reports of dismal teacher morale, and national concern about the supply and demand for teachers, the salaries of teachers are becoming of interest to the public and to teachers themselves.

On the surface, at least, salaries of teachers are simple to study, but teaching is a turbulent business, with large numbers of new entrants each year, with high degrees of mobility from one location to another, and with the meaning of "average salary" or "average experience" masked by large and highly variable percentages of newcomers to the profession.

In such a situation, studies of salaries must be conducted carefully, for statistics can be misleading. Our objective in this paper is to show the results of three different methods of computing changes in teacher salaries over time. We will show that teachers are losing the war against inflation, and that they are winning it--but that winning or losing depends on how you compute the data and which result you choose to report. We will also examine, in a speculative vein, the implications of the situation that we see evolving vis-a-vis teacher salaries.

In order to conduct this study we obtained data from a midwestern state's department of education. The relevant data for our purposes included estimates of individual teacher's training, years of experience, and salary. We also knew the teacher's official position in a school and, most important for this study, we were able to follow the salary histories of individuals from 1969 to 1976. These data allowed us to do three things. We could compute the average salary for teachers in the state for each year of the study. Using certain combinations of training and experience we

could build a surrogate salary schedule for the state, thus showing what was happening to the salaries of certain positions over time. Last, we could follow people through seven years, thereby determining what was happening to the salaries of individuals who were making a career in public education.

Findings

I. Average Salaries

At first glance, the average salary of teachers seems to be doing very nicely. Table 1 shows that salaries for full-time teachers rose from $7,752 in 1969-70 to $11,315 in 1976-77. In terms of 1967 dollars, however, those salaries have dropped from $7,060 to $6,636, a net loss of 6%.[1]

A fact that is rarely noted in discussions of average salaries is that the number of teachers upon which the estimate is based changes. In this case it rose from 42,501 in 1969 to 48,274 in 1976, an increase of 13.5%. Thus, the 1976-77 average likely contains salaries of people who are new to teaching and hence at the low end of a salary scale. Given this simple fact, all that can be observed about the average is that it is going down when corrected for inflation. What the decline means to individual teachers or for school districts is unknown, because of the varied patterns of training and experience for both individuals and school systems.[2]

II. Salary "Scales"

Salaries paid to various positions are interesting, since they are apt to reflect the planning and budget constraints of school systems. One way to get these for a statewide system would be to collect the salary

schedules for each school district, and to average them. Given the data on hand, it was easier to simply hold constant key variables and construct a hypothetical salary schedule for the state, using certified personnel who were at the various key steps as the data source.

We chose the bachelor's and master's degrees, as well as a master's degree plus thirty hours of training as indices of levels of training that are commonly used in constructing salary scales. We also selected one, five and ten years of experience as indicators of levels of experience which might be rewarded on a salary scale. These gave us nine combinations of training and experience and allowed us to construct a surrogate salary scale for the state (Table 2). The most important finding using this method is that the salaries paid to various positions are all dropping much more rapidly when corrected for inflation that is reported in studies of average salaries.

There is also a steady trend in the data: positions which require little training and experience are declining in value more rapidly than positions for people with high levels of training and experience. This reflects what might be expected in a time of teacher surplusses and hard bargaining between teacher's groups and school boards. Newcomers, who lack a political voice, are permitted to suffer the most.

III. Individual Histories

We next examined the salary histories of individuals who starting teaching since 1969. Here, the results do not fit earlier studies' wisdom, for we found that people who remained in the profession do indeed make headway against inflation. The cohort which started teaching in 1969, for instance, gained 82% in nominal dollars, and 17% in 1967 dollars over the seven years that we were able to follow them. The cohort that entered

in 1975 gained 11% in nominal dollars and 5% in 1967 dollars. It is true that these people probably gained promotions and training as they progressed through the period of the study, and that these things contribute to the salary increments of many of them. On the other hand, these data show that, for the period of this study at least, there was a substantial increase in the earnings of the average individual who chose to remain in teaching.

Conclusions:

We have, then, a very odd situation. Using one method of computation, we can show that after correction for inflation teacher salaries have dropped as much as 17% over an eight year period. Using another, we can show that teacher salaries have increased as much as 17%. A third method produces intermediate findings. The difference of 34% between the high and low estimates is not trivial. How can it be explained?

We think the simplest explanation is by analogy to a sinking ship. Everyone on the ship moves to the upper decks as the ship goes down. In teaching, the vast majority of the staff have been deck hands working far below the waterline. The young people we have been following have been able to make progress by investing in training and by gaining experience. However, within a few years these people will have reached the top of the ship--they will be at the point on a salary scale where training and experience are no longer rewarded. At that point, they will face the prospect of salaries which decline at rates which are more like those found in our examination of salaries paid to positions.

This fact partially explains the financial woes of school districts with declining enrollments. Such districts first responded to enrollment declines by allowing attrition to reduce the size of their inexperienced

(and inexpensive) staff. In the meantime, teachers on those staffs were returning to universities for additional training, which allowed them to move across the salary scale. Over time, the districts were left with highly trained and experienced teachers, and were unable to grant large across the board pay increases. Their teachers had to confront the fact that their salary increases were small and would be that way for the foreseeable future.[3]

There are three problems tied to this unfavorable salary situation: imbalance between the number of teachers and the number of students, aging of the teaching force, and a declining level of talent in the teaching force.

1. Teacher/Student Imbalance. As virtually everyone knows, school enrollments have been declining. In the state for which we report data, public school registrations went from 1,078,347 in 1969/70 to 1,026,999 in 1976/77. Thus, in the period under study, school registrations dropped 4.8%, but the number of teachers rose 14.4%. This means that funds had to be spread over more people despite declining enrollment.

This is a troublesome problem in the politics of education, for it is certain that society will not long tolerate increasing the size (more directly the cost) of a teaching force intended to deal with a shrinking student population, especially when that same force becomes vocal in demands for higher salaries. At the same time, young people with children are found in new suburbs where they call for the construction of new schools and the hiring of teachers. Since these people want to run their new schools as cheaply as possible, they do not hire many of the highly trained and experienced teachers who are "running out of students" in the older urban areas. Colleges which depend on the preparation of teachers for

their business are unlikely to call for a change in this situation, and no state financing system of which we are aware has been designed to try and reduce the absolute size of the teaching force. Nor has any teacher's group argued that there are too many teachers, and that this might be one way to find the funds to raise the salaries of teachers.

There have been attempts, for many years, to restrict the supply of teachers by increasing training requirements. However, as training becomes more extended and specialized, there is less likelihood that people will leave teaching once they enter it. Attempts to restrict entry, while a good short-run solution to over-supplies of teachers, are counter-productive in the long-run since they make it harder for people to get out of teaching.[4] We show the importance of this consideration in the next section, where it becomes apparent that the major "growth" area in teaching has been of the person with 6-20 years of experience.

2. Aging of the Teaching Force. The distribution of people in the teaching force has been changing dramatically. As Table 4 shows, the percentage of teachers in their first five years of teaching has dropped from 42% of the force in 1969 to 36½% of the force in 1976. There has been an absolute decline in the number of people in the first five years but it is most marked in the first two.

There have also been dramatic changes in the number of people who are in retirement stages (say 21 or more years of experience). Some 20% (8863 people) of the teaching force was in this bracket in 1969, but by 1976 onl6 7,134 people were in this bracket, and they comprised only 14.1% of the teaching force.

Teachers who are most likely to stay in the profession for a long

time (those with 6-20 years of experience) numbered 16,127 in 1969 and were 37.4% of the force. By 1976 there were 24,119 people in this bracket and they comprised 48.9% of the teaching force.

Taken together, these factors suggest that teaching is changing from a business characterized by a high proportion of young, inexperienced unstable (or impermanent) people, to one with a very high percentage of highly trained, experienced and career teachers. Efforts to control the size of the teaching force, to maintain its salary position vis-a-vis other competing areas, to maintain teacher morale and personal development, must take these recent changes into account. Early retirement plans, and reduction in rates of new hiring will not do the job that will probably have to be done in the next ten years.

One of our biggest fears is for teacher morale. A large percentage of the teaching force must feel trapped. Our earlier studies show a higher percentage of teachers are remaining in the force in the past seven years, and it may be inferred that these people would have left teaching in times when their skills would have been sought by other employers. They remain, enlarging the cadre of people whose aspirations are apt to be unfulfilled by teaching.[5] These people have invested enough in their careers so that they cannot afford to leave, but they do not see public support and recognition, nor do they see the opportunities for promotion and development that existed a few years ago.[6]

3. Attraction of Talent. We would like last to mention the attractiveness of teaching relative to other career options which might be open to students. In Table 5 we show starting salaries for teachers (as computed from our data), as well as salary offers to graduates in the humanities,

social sciences and technical fields. The state for which we collect data probably has lower teaching salaries than most, and the other data in the table are from a national sample, so amounts are not directly comparable. Trends, however, are.

Teaching is becoming less attractive than other occupations into which comparable amounts of training might be invested. Weaver (1978) has shown that the ability of teacher education candidates has been dropping in recent years, and his hunch was because of oversupply problems. Ours is that, in addition to problems of oversupply, increasingly depressing outlooks for starting salaries and career development will drive high quality students away from teacher education and teaching as a career.

What then is the long-term outlook? As we see it, unless there are fairly sizable cutbacks in the size of the teaching force, it is unlikely that salaries for teachers can continue to grow even at the rates they have been maintaining for the past few years. To date, teachers who remained in teaching were able to obtain salary increases primarily because starting salaries were dramatically reduced and because administrative positions were being opened up despite declining enrollment. In the future, such developments are bound to decrease in number, and the morale of the teaching force, and its dissatisfaction with wages, is almost certain to increase.

The impact of these changes on colleges and universities is likely to be extremely dramatic. Many of these institutions, particularly those located in rural areas, have been hard hit by declining undergraduate enrollments. Urban institutions have been able to maintain enrollments because of a large population of relatively untrained and inexperienced teachers who returned to graduate programs in order to increase their salaries. The pool of such people will dry up very quickly as fewer young people

enter teaching and as those who do enter stay longer.

Responding to declines in enrollment is much more than a matter of hanging on until the next baby boom comes along, for even the small increase in the number of live births that is projected to occur ten years from now will do little to offset the tremendous demographic change that has taken place in teaching itself. Deep and fundamental changes are going to occur in teacher education. These may take a variety of solutions, but there is little doubt that the next ten years will be times of extreme change for most of us in the education profession.

In a way, America has fought at war with itself. Technological developments made simple manual work obsolescent, yet a large and apparently endlessly growing percentage of the population was young and in need of socialization. The schools were assigned the task, and teachers were the shock troops. Colleges of education, universities, normal schools, emergency summer institutes all trained these troops and sent them to war. The casualty rate was enormous--probably no more than one teacher in five managed to remain in the trenches for five years or more.

The war is over. The young now constitute a declining part of our population. They, and the problems of unemployment, crime, socialization and education that came along with them, are moving on. As they pass by, those of us who ran the training camps must prepare to dismantle parts of our operation and to redirect others. While there will always be need for some of us, the next great social battles that America must fight are unlikely to be staged in the classrooms of our public schools.

The salaries of our teachers merely reflect this simple, yet enormous social fact.

Table 1

Mean Salaries for all Fulltime Teachers

Year	Number	Average Nominal Salary	Average Salary Deflated*
1969	42,501	$ 7,752	$ 7,060
1970	43,569	8,186	7,039
1971	45,190	8,592	7,083
1972	46,394	8,962	7,152
1973	47,126	9,419	7,077
1974	48,107	9,991	6,764
1975	48,526	10,680	6,625
1976	48,274	11,315	6,636

Change in Nominal Salary +45.96%

Change in Deflated Salary -6.01%

*to 1967 dollars

Table 2

Hypothetical Salary Scales 1969 and 1976[1]

Training

Experience		Bachelor's	% Loss	Master's	% Loss	Master's + 30	% Loss
Beginning	1969	5696	-15.7	6536	-17.1	6702	-15.3
	1976	4815		5418		5677	
5 years	1969	6566	-13.0	7493	-13.5	7989	-12.8
	1976	5714		6485		6968	
10 years	1969	7309	- 8.6	8655	-11.1	9665	-15.2
	1976	6683		7691		8198	

1. Amounts are reported in constant (1967) dollars.

Table 3

Average Salaries Using Cohort Analysis

Entering Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year	7th Year	8th Year	Percent Change in Average Salary
1969	6,232*	6,852	7,421	8,017	8,748	9,543	10,455	11,353	+82.2
	5,676	5,892	6,118	6,398	6,573	6,461	6,486	6,659	+17.3
1970	6,458	7,053	7,627	8,339	9,139	9,985	10,843		+67.9
	5,553	5,815	6,087	6,265	6,188	6,197	6,360		+14.5
1971	6,670	7,278	7,963	8,741	9,612	10,464			+56.9
	5,499	5,808	5,983	5,918	5,963	6,137			+11.6
1972	6,858	7,628	8,415	9,256	10,076				+46.9
	5,473	5,731	5,697	5,742	5,910				+8.0
1973	7,053	7,927	8,810	9,620					+36.4
	5,299	5,367	5,465	5,642					+6.5
1974	7,425	8,337	9,132						+23.0
	5,027	5,172	5,356						+6.5
1975	7,741	8,614							+11.3
	4,802	5,052							+5.2
1976	8,125								--
	4,765								--

*Top entry is nominal average salary; the bottom figure is deflated annual salary to 1967 dollars.

Table 4

Distribution of Certified Personnel by Experience

Years of Experience	1969 N	1969 % of Teachers	1976 N	1976 % of Teachers	1978 N	1978 % of Teachers	Change 69-78 Size of Group	Change 69-78 Row as % of 1969	Change 69-76 Size of Group	Change 69-76 Row as % of 1969
1	5233	12.1	3598	7.3	3395	6.9	-1838	-35.1	-1635	-31.2
2	4216	9.8	3461	7.0	3307	6.7	- 909	-21.6	- 755	-17.9
3	3316	7.7	3669	7.4	3178	6.4	- 138	- 4.2	+ 353	+10.6
4	2910	6.8	3671	7.4	2987	6.0	+ 77	+ 2.6	+ 761	+26.2
5	2429	5.6	3643	7.4	3129	6.3	+ 700	+28.8	+1214	+50.0
1-5	18,104	42.0	18,042	36.6	15,996	32.3	-2108	-11.6	-62	-.3
6-10	7649	17.7	13,033	26.4	13,759	27.8	+6110	+79.7	+5384	+70.4
11-15	4736	10.9	6783	13.8	7924	16.0	+3188	+67.3	+2047	+43.2
16-20	3742	8.7	4303	8.7	4596	9.3	+ 854	+22.8	+ 561	+15.0
6-20	16,127	37.4	24,119	48.9	26,279	53.1	+10,152	+63	+7,992	+49.6
20-30	5283	12.3	5000	10.1	5245	10.6	- 38	- .7	- 283	- 5.4
30+	3580	8.3	2134	4.3	1958	4.0	-1622	-45.3	-1446	-40.4
20+	8863	20.6	7134	14.5	7203	14.6	-1660	-18.7	+1729	-19.5
Total Teachers	43,094[1]	99.9	49,295[2]	99.8	49,478	100.0	+ 6,384	+15.0	+ 6,201	+14.4
Administrators & Special Service	6,087		8,113		8,251		+ 2,164	+35.6	+ 2,026	+33.3
Total	49,181		57,408		57,729		+ 8,548	+17.4	+ 8,227	+16.7
Registrations	1,078,347		1,026,999		(est.) 981,156		-97,191	- 9.0	-51,348	- 4.8

1. We estimate 1,403 of these are part-time.
2. We estimate 2,021 of these are part-time.

Table 5

Starting Monthly Salaries in Teaching and Offers
To Humanities, Social Sciences and
Civil Engineering, 1969-1977.

	Teachers[1]	Offers[2] to Graduates In		
		Humanities[3]	Social Sciences	Civil Engineering
1969	519	700 (men only) (74%)		837 (men) (62%)
1970	538	699 (men only) (77%)		850 (men) (63%)
1971	556	702 (men only) (79%)		869 (men) (64%)
1972	572	664 (86%)	690 (83%)	890 (77%)
1973	588	691 (85%)	737 (80%)	967 (61%)
1974	619	723 (86%)	770 (80%)	1064 (58%)
1975	645	775 (83%)	820 (79%)	1108 (58%)
1976	678	810 (84%)	863 (79%)	1185 (57%)
1977		871	893	1288
1978				

1. Annual Salary spread over 12 months.

2. Source: 1972-77 College Placement Council Salary Survey, Final Reports.
1969-71 College Placement Council Men's Salary Survey, Final Report, July, 1972.

3. The monthly salary of teachers, as a percentage, follows in parentheses.

NOTES

1. This drop is not vastly different than the 4.8% reported in the period 1967/68 to 1975/76 by Musemeche and Adams (1977).

2. In work we have reported elsewhere (Anderson and Mark, 1977), we have found that older, inner city schools are likely to have a high proportion of older, experienced teachers, while newer suburban systems have a high proportion of young inexperienced teachers. Apparently, what is happening is that the flow of people away from urban cores is being handled by the establishment of new school systems rather than by the movement of teachers from the declining areas to regions of population growth. This fact helps to account for the fact that the teaching force is growing while enrollment is shrinking.

3. If this explanation holds, districts most likely to experience strikes over salaries are those with high proportions of experienced teachers near the top of the salary scales. Demographic data would suggest that those also tend to be the districts located in the older areas of U.S. cities.

4. Many studies have documented the high rate of departure of people from teaching. In some sense this has been a "problem," but it shows that the training of teachers must have been more than specialized training of narrowly defined professionals, and it made it possible to adjust the size of the teaching force relatively easily. There are signs that this situation has already changed, with young teachers more likely to remain in teaching (Anderson and Mark, 1978), and we feel it would be foolish to encourage this development by attempting to control entry to teaching through rigorously defined and narrowly professional course requirements.

5. Lortie (1975, ch. 4) contains a very nice discussion of the rewards and frustrations felt by teachers. It seems to us that the demographic pattern that we see carries with it an implication that the teaching force is increasingly likely to be occupied by people who are unhappy with their lot in life.

6. Indeed while the number of teachers in the state rose 14% over seven years, the number of administrators rose 33%. Unless something we do not see happens, this sort of difference cannot continue for long. In fact, some of the key retrenchments of the next few years are apt to be among administrators and other special purpose personnel.

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